

# FILE COPY

February 7, 1986

TO: File   
FROM: Randy Harden  
RE: Navajo Sandstone Mining Plan, PRO/023/010, Juab County, Utah

Technical comments pertaining to MR-1 are given below:

RULE M-5 SURETY GUARENTEE: (JRH)

The Operator has not submitted a sufficient estimate of the reclamation work required in order to determine the surety amount for reclamation. Such information must be provided to the Division and the surety amount determined by the Division prior to permit approval.

The Division requires that detailed cost estimates be provided to the Division in order to determine the surety amount required. These cost estimates shall include earthwork mass balances(including topsoil), quantity estimates for all materials and work accomplished, equipment selection, productivity calculations for the equipment. A map shall be provided to the Division to reference the location and extent of the work to be accomplished during reclamation, and to show the sequence and the timing of the reclamation work to be accomplished.

Costs for reclamation work are determined by the Division using the Blue Book Rental Rate Guide for equipment and the Means Site Work Cost Data book for labor and equipment operators, and for demolition and other miscellaneous work. Productivity for equipment is determined using the Caterpillar Equipment book or the Means Site Work Cost Data book. The Operator may use the or other guide in determining his cost estimate. All references to sources of information related to equipment selection, productivity or costs shall be included with the cost estimate.

RULE M-6 PLANS AND MAPS: (JRH)

The map provided by the Operator entitled 'Navajo Sandstone Operation' should include; a border clearly outlining the permit area, a boulder clearly outlining the disturbed areas, the acreages of both the disturbed and the permit areas, all surface facilities or structures within 500 feet of the permit area boundaries, and all such information as required under Rule M-3.



The Operator needs to provide to the Division, a map showing the final post reclamation contours of the operation for the life of the operation. In the event that the mining plans or operations change during the course of the life of the mine, this map shall be modified to reflect those changes.

RULE M-8 REPORTS: (JRH)

The Operator shall provide to the Division an annual report for the work accomplished during the calendar year 1985. This information shall be provided to the Division on form MR-3 (copy enclosed with this review) and shall be submitted to the Division no later than March 31, 1986. The annual report shall include an up to date map of the operation showing the contours of the disturbed area and the outline and acreage of the area actually disturbed. This map shall indicate the date of the survey.

RULE M-10 RECLAMATION STANDARDS (JRH)

- (2)(d) The Operator shall post appropriate warning sign in locations where public access to operations is readily available. A sign shall be posted on the access road to the site indicating a warning of the hazards of the site. Signs shall also be posted a reasonable distance from the highwalls indicating potential dangers.
- (2)(e) The operator shall include in the reclamation plan for the operation, a plan for the protection of the public safety and welfare following mining from the excavations and highwalls left by the operation.
- (5) The operator must prove long term stability of the benches left by mining in order to obtain a variance for highwalls. Stability shall be determined with a minimum static factor of safety of 1.5 static and a seismic factor of safety of 1.1. The site is located in Seismic Zone 2 with an average seismic coefficient of 0.13. Calculations shall be provided to the Division indicating the stability of the final slopes and benches of the site. These calculations and determination of stability shall be certified by a registered professional engineer.
- (4) Finished slopes of all waste piles and slopes shall be 2v:1h or less unless the Operator submits calculations and certification from a registered professional engineer proving mass stability of slopes left at greater than 2v:1h.

cc: S. Linner  
W. Hedberg